

WHAT IS CLAIMED IS:

1. A slot filler for usage in a rack cabinet that can accept a plurality of stacked electronic devices, the cabinet having an air inlet and exit on mutually opposing sides and a plurality of slots capable of securing the stacked electronic devices, the slot filler comprising:

a blanking panel capable of covering an entry opening of a slot that is unoccupied by an electronic device; and

a body coupled to the blanking panel that emulates dimensions of an electronic device and has a thickness selected so that clearance between the slot filler and an adjacent electronic device leaves an air flow gap from the air inlet to exit that is sufficiently small to create an air flow resistance preventing air from re-circling toward the air inlet.

2. The slot filler according to Claim 1 wherein:
the cabinet has a frontal surface and columns coupled to the frontal surface on lateral ends of the plurality of slots; and
the blanking panel attaches to the columns.

3. The slot filler according to Claim 1 wherein:
the blanking panel is a cosmetic plate that is used to cover open spaces in the cabinet and to facilitate controlled airflow.

4. The slot filler according to Claim 1 wherein:
the blanking panel is constructed from sheet metal and/or plastic; and
the body is constructed from sheet metal and/or plastic.

5. The slot filler according to Claim 1 wherein:
the body shape is approximately a rectangular polyhedron.

6. The slot filler according to Claim 1 wherein:
the body shape is approximately a rigid rectangular plate.

7. The slot filler according to Claim 1 wherein:
the body has an adjustable length for extension into the cabinet a controlled depth.

8. A system comprising:
a rack cabinet capable of holding a plurality of stacked electronic devices;
an air inlet and exit coupled to mutually opposing sides of the cabinet;
a plurality of slots contained within the cabinet and capable of securing the
stacked electronic devices; and
a slot filler comprising:
a blanking panel capable of covering an entry opening of a slot that is
unoccupied by an electronic device; and
a body coupled to the blanking panel that emulates dimensions of an
electronic device and has a thickness selected so that clearance
between the slot filler and an adjacent electronic device leaves an
air flow gap from the air inlet to exit that is sufficiently small to
create an air flow resistance preventing air from re-circling toward
the air inlet.

9. The system according to Claim 8 wherein:
the cabinet has a frontal surface and columns coupled to the frontal surface on
lateral ends of the plurality of slots; and
the blanking panel attaches to the columns.

10. The system according to Claim 8 wherein:
the blanking panel is a cosmetic plate that is used to cover open spaces in the
cabinet and to facilitate controlled airflow.

11. The system according to Claim 8 wherein:
the blanking panel is constructed from sheet metal and/or plastic; and
the body is constructed from sheet metal and/or plastic.

12. The system according to Claim 8 wherein:
the body shape is approximately a rectangular polyhedron.

13. The system according to Claim 8 wherein:
the body shape is approximately a rigid rectangular plate.
14. The system according to Claim 8 wherein:
the body has an adjustable length for extension into the cabinet a controlled depth.
15. A method of controlling airflow in an electronic system comprising:
encasing a plurality of electronic devices in a housing having multiple slots for
receiving the electronic devices arranged in a stack;
directing a cooling airstream flow over the plurality of stacked electronic devices
from an air inlet to an exit;
inserting a slot filler within any slots unoccupied by electronic devices between
the plurality of stacked electronic devices; and
arranging the plurality of stacked electronic devices and slot fillers with a selected
clearance between adjacent electronic devices and/or slot fillers leaving an
air flow gap from the air inlet to exit that is sufficiently small to create an
air flow resistance preventing air from re-circling toward the air inlet.
16. The method according to Claim 15 further comprising:
selecting dimensions and form of the slot fillers to emulate an electronic device.
17. The method according to Claim 15 further comprising:
injecting the cooling airstream flow into the housing from an air inlet in a front
portion of the housing; and
venting warm air from the stacked electronic devices to an exit in a rear portion of
the housing.
18. The method according to Claim 15 further comprising:
covering the slot filler in a slot unoccupied by an electronic device with an
ornamental covering.
19. The method according to Claim 15 further comprising:
adjusting slot filler length for extension into the housing a controlled depth.

20. A system comprising:
a housing with a plurality of slots regularly arranged in a stack for receiving multiple electronic devices, the housing having an air inlet and an air exit for passing cooling air through the electronic devices;
at least one electronic device inserted into at least one of the plurality of slots; and
at least one slot filler inserted into the a slot of the plurality of slots, the slot fillers having dimensions that emulate dimensions of an electronic device,
the at least one electronic device and the slot filler having an arrangement when inserted into the slots so that clearance between the adjacent slot fillers and/or electronic device is an air flow gap that extends from the air inlet to the air exit that is sufficiently small to create an air flow resistance preventing air from re-circling toward the air inlet.
21. A system for controlling airflow in an electronic system comprising:
means for encasing a plurality of electronic devices;
means within the encasing means for receiving the plurality of electronic devices arranged in a stack;
means for directing a cooling airstream flow over the plurality of stacked electronic devices from an air inlet to an exit; and
means for filling any receiving means unoccupied by electronic devices,
the receiving means, electronic devices, and filling means being arranged with a selected clearance between adjacent electronic devices and/or filling means leaving an air flow gap from the air inlet to exit that is sufficiently small to create an air flow resistance preventing air from re-circling toward the air inlet.